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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,035	06/20/2003	Werner Kleine	DT-6528	6367

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EXAMINER	
GATES, ERIC ANDREW	
ART UNIT	**PAPER NUMBER**
3722	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/600,035	KLEINE ET AL.	
	Examiner	Art Unit	
	Eric A. Gates	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 13-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 13-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 22 December 2006 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-15 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleine (EP 0 304 002 A1).

4. Regarding claim 1, Kleine discloses a shank for a rotary and/or percussive tool, comprising at least two, axially spaced, guide regions 11 (to the left and right of locking groove 18 in figure 1); at least one radially projecting entrain strip 16 arranged between the at least two guide regions 11; and at least one locking groove 18 arranged between the at least two guide regions 11, the at least one locking groove 18 being axially closed

at one end thereof and adapted to receive at least one radially displaceable and axially displaceable, within predetermined limits, locking member 49 of a chuck, wherein the two guide regions 11 have equal diameters equal to a guide dimension (not labeled, see Fig 1), and an axial region (not labeled, see Fig 1) of the at least one locking groove 18 has a cross-sectional width (not labeled, see Fig 2) that includes a radial extent of the entrain strip 16, and a thickness (not labeled, see Fig 2) measure in a direction transverse to the width measurement direction, and wherein the guide dimension is greater than the thickness but smaller than the width.

Kleine does not disclose that the locking groove 18 is axially closed at both ends. Kleine does teach a locking groove 12 (closed groove 12 as shown in figure 1) that is axially closed on both ends for the purpose of providing a stronger retention means for use with a chuck. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the locking groove 18 of Kleine with the locking groove 12 of Kleine in order to simplify the design and increase the chuck retention strength of locking groove 18.

5. Regarding claim 2, the modified invention of Kleine discloses the axial region of the at least one locking groove 18 and at least one of the guide regions 11 have a substantially same cross-sectional surface within a tolerance range of +/- 10%, based on calculations taken from measurements of Figures 1 and 2.

6. Regarding claim 3, the modified invention of Kleine discloses that at least one of the opposite ends of the at least one locking groove 18 has one of a spherical and

cylindrical axial stop surface 21 engageable by the locking member 49 having, respectively, one of a spherical and cylindrical shape.

7. Regarding claim 4, the modified invention of Kleine discloses a maximum aperture angle (not labeled, see Figure 2) of a bottom surface of the at least one locking groove 18, which is defined by a cross-section of the axial region of the at least one locking groove, amounts to at least 120 degrees, based on measurements of Figure 2.

8. Regarding claim 5, the modified invention of Kleine discloses a second, radially projecting, entrain strip 16 located diametrically opposite the at least one entrain strip, wherein a bottom surface of the at least one locking groove 18, which is located between the at least one and second entrain strips 16, forms a first functional surface (not labeled, see Figure 2) formed of smooth surface sections exhibiting one of a smooth transition and a sharp edge transition, with a transition region being curved in a direction to a tool axis.

9. Regarding claim 6, the modified invention of Kleine discloses that the smooth surface sections are even.

10. Regarding claim 7, the modified invention of Kleine discloses a second locking groove 18 arranged diametrically opposite the at least one locking groove 18, with a bottom surface of the second groove, which is located between the at least one and second entrain strips, forming a second functional surface (not labeled, see Figure 2) located opposite the first functional surface.

11. Regarding claim 8, the modified invention of Kleine discloses the at least one guide region 11 has a cylindrical outer surface.

12. Regarding claim 9, the modified invention of Kleine discloses a second entrain strip 16, which is arranged diametrically opposite the at least one entrain strip 16, is provided in the axial region of the at least one locking groove 18.

13. Regarding claim 10, the modified invention of Kleine discloses a second locking groove 18 arranged diametrically opposite the at least one locking groove 18 and having a same shape.

14. Regarding claim 11, the modified invention of Kleine discloses a second entrain strip 16 arranged diametrically opposite the at least one entrain strip 16 in the axial region of the locking grooves 18.

15. Regarding claim 13, the modified invention of Kleine discloses further axial regions 12 axially spaced from each other and arranged one of parallel to each other, crosswise to each other, and at an acute angle to each other (see Figure 2).

16. Regarding claim 14, the modified invention of Kleine discloses a third guide region 11 arranged between the axial regions.

17. Regarding claim 15, the modified invention of Kleine discloses a further, segment-shaped guide region (not labeled, see Figure 2) provided between the edge of the locking groove 18 and the peak of the entrain strip 16.

18. Regarding claim 18, the modified invention of Kleine discloses that at the guide dimension of the guide region 11, the width amounts to from the guide region dimension multiplied by 1.2 to the guide dimension multiplied by 1.4, and the thickness amounts to from the guide dimension multiplied by 0.6 to the guide dimension multiplied by 0.8, based on calculations taken from measurements of Figures 1 and 2.

19. Regarding claim 19, the modified invention of Kleine discloses wherein the shank comprises a second entrain strip 16 located diametrically opposite the at least one entrain strip 16, the at least one entrain strip and the second entrain strip being located in the axial region of the at least one locking groove 18.

20. Claims 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleine (EP 0 304 002 A1).

21. Regarding claim 16, Kleine discloses a first tool having a shank having at least two, axially spaced, guide regions 11 (to the left and right of locking groove 18 in figure 1), at least one radially projecting entrain strip 16 arranged between the at least two guide regions and at least one locking groove 18 arranged between the at least two guide regions, the at least one locking groove being axially closed at one end thereof, and adapted to receive at least one radially displaceable and axially displaceable, within predetermined limits, locking member 49 of the chuck, with the two guide regions 11 having identical diameters equal to a guide dimension (not labeled, see Fig 1), and an axial region (not labeled, see Fig 1) of the locking groove 18 having a cross-sectional width (not labeled, see Fig 2) that includes a radial extent of the entrain strip 16, and a thickness (not labeled, see Fig 2) measured in a direction transverse to the width measurement direction, and with the guide dimension being greater than the thickness (D) but smaller than the width (B).

Kleine does not disclose that the locking groove 18 is axially closed at both ends. Kleine does teach a locking groove 12 (closed groove 12 as shown in figure 1) that is

axially closed on both ends for the purpose of providing a stronger retention means for use with a chuck. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the locking groove 18 of Kleine with the locking groove 12 of Kleine in order to simplify the design and increase the chuck retention strength of locking groove 18.

The modified invention Kleine does not distinctly disclose a tool set including a second tool having a similar shank, wherein the axial region of the shank of the first tool has a thickness/width ratio greater than a thickness/width ratio of the axial region of the shank of the second tool. However, it would have been an obvious matter of design choice to make the different portions of the shank of a second tool of whatever relative sizes were desired for the purpose of creating a set of different tools for use with different tooling applications, since such a modification would have involved a mere change in the proportions of components. A change in proportion is generally recognized as being within the level of ordinary skill in the art.

22. Regarding claim 20, the modified invention of Kleine discloses wherein each of the shanks of the first and second tools has a second entrain strip 16 located diametrically opposite the at least one entrain strip 16, the at least one entrain strip and the second entrain strip being located in the axial region of a respective shank 11.

23. Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kleine (EP 0 304 002 A1).

24. Regarding claim 17, Kleine discloses a chuck 40 comprising: a chuck sleeve 43 for receiving a shank 11 of a tool with the shank having at least two, axially spaced, guide regions 11 (to the left and right of locking groove 18 in figure 1), at least one radially projecting entrain strip16 arranged between the at least two guide regions 11; and at least one locking groove 18 arranged between the at least two guide regions, the at least one locking groove being axially closed at one end thereof, and adapted to receive at least one radially displaceable and axially displaceable, within predetermined limits, a locking member 49 of the chuck, with the at least two guide regions 11 having identical diameters equal to a guide dimension (not labeled, see Fig 1), and an axial region (not labeled, see Fig 1) of the locking groove 18 has a cross-sectional width (not labeled, see Fig 2) that includes a radial extent of the entrain strip 16 and a thickness (not labeled, see Fig 2) measured in a direction transverse to the width measurement direction, and with the guide dimension being greater than the thickness but smaller than the width, the chuck sleeve including two axially spaced inner guide surfaces 43 (separated by lead 50) cooperating with the respective guide regions of the shank (through entrain strip 16); the at least one locking member 49 being radially displaceable over a distance smaller than a half of the guide dimension of the guide region of the shank; and at least one rotation-transmitting element (vertical peaks of inner diameter 53 as shown in Fig 5) circumferentially offset relative to the locking member 49 and having a radial extent, with respect to a tool axis (not labeled, shown in Fig 4) greater than a half of the guide dimension.

Kleine does not disclose that the locking groove 18 is axially closed at both ends. Kleine does teach a locking groove 12 (closed groove 12 as shown in figure 1) that is axially closed on both ends for the purpose of providing a stronger retention means for use with a chuck. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the locking groove 18 of Kleine with the locking groove 12 of Kleine in order to simplify the design and increase the chuck retention strength of locking groove 18.

Response to Arguments

25. Applicant's arguments filed 22 December 2006 have been fully considered but they are not persuasive.

26. Applicant's argument that section R of Kleine '002, as labeled in appendix A submitted 22 December 2006, cannot function as a guiding region is not persuasive because the region 11 to the left of locking groove 18 in figure 1 can be used to guide the tool into the chuck opening, and there is nothing in the claims that would prevent this area from being defined as a guide region. While the claims in the instant application include reference characters that refer to the drawings of the application, as stated in MPEP 608.01(m) [R-3], "the use of reference characters is to be considered as having no effect on the scope of the claims.

27. Applicant's argument that "there is no motivation or suggestion to have section R possess an identical diameter as the guiding sections P or Q" is not persuasive because page 3, lines 4-5 of Kleine '002 in the attached translation states: "Due to the invention,

drills can be produced whose range of drill diameter is expanded so much that it is equal to the diameter of the clamping shaft".

28. Applicant's argument that "one having ordinary skill in the art would not look to Kleine '002 for a shank and components thereof for use in a rotary and/or percussive tool" is not persuasive because the enclosed translation discloses that the drill can be used as a percussion drill (see page 3, paragraph 5).

29. For the reasons as set forth above, the rejections are maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric A. Gates whose telephone number is 571-272-5498. The examiner can normally be reached on Monday-Thursday 7:45-6:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Carter can be reached on 571-272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EAG
14 February 2007

Monica S. Carter
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SUPERVISORY PATENT EXAMINER